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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

DUNWOODY, AARON M

ART UNIT PAPER NUMBER

3679

DATE MAILED: 11/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/729,589

Applicant(s)

AGNER, IVO

Examiner

Aaron M. Dunwoody

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 September 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) 21-23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

The incorporation of essential material in the specification by reference to an unpublished U.S. application, foreign application or patent, or to a publication is improper. Applicant is required to amend the disclosure to include the material incorporated by reference, if the material is relied upon to overcome any objection, rejection, or other requirement imposed by the Office. The amendment must be accompanied by a statement executed by the applicant, or a practitioner representing the applicant, stating that the material being inserted is the material previously incorporated by reference and that the amendment contains no new matter. 37 CFR 1.57(f).

If the incorporated material is not essential or being relied on, then the reference to incorporation by reference should be removed from the instant application.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-4 are rejected under 35 U.S.C. 102(e) as being anticipated by US patent 3525271, Raines.

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In regards to claim 1, Mina discloses a shaft-hub connection for transmitting a torque comprising:

a shaft (22) having an axial direction;

a hub (11, 12); and

at least one driving element (27) for aiding in transmitting the torque between the shaft and the hub;

a contact surface being minimized in the axial direction between at least one of the shaft and the hub; the shaft and the driving element; and the hub and the driving element, to permit tilting of the hub with respect to the shaft in the axial direction.

In regards to claim 2, Raines discloses at least one force-transmitting element selected from the shaft, hub and at least one driving element has the minimized contact surface, the minimized contact surface being convexly curved.

In regards to claim 3, Raines discloses the shaft is convexly shaped on an outside circumference in an area of the hub or is relieved by two chamfers on the outside circumference.

In regards to claim 4, Raines discloses the hub is convexly shaped on an inside circumference or is relieved by two chamfers on the inside circumference.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Raines.

In regards to claim 5, Raines discloses the shaft has a shaft groove and the hub has a hub groove, the driving element being located between the shaft and the hub partly in the shaft groove and partly in the hub groove, the shaft groove and the hub groove extending axially, the driving element being a circular cylinder. Raines does not disclose the shaft groove being convexly shaped at least in an area against which the driving element bears during torque transmission. It would have been obvious to one having ordinary skill in the art at the time the invention was made to fabricate the shaft groove with a convexly shaped at least in an area against which the driving element bears during torque transmission, since a change in the shape of a prior art device is a design consideration within the level of skill of one skilled in the art. In re Dailey, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

In regards to claim 6, Raines discloses the contact surface between the shaft groove and the driving element is virtually centered.

In regards to claim 7, Raines discloses the shaft groove has a groove base from where two groove walls start, the groove walls and the groove base of the shaft groove being convexly shaped in the area against which the driving element bears.

In regards to claim 8, Raines discloses the shaft has a shaft groove and the hub has a hub groove, the driving element being located between the shaft and the hub partly in the shaft groove and partly in the hub groove, the shaft groove and the hub groove extending axially and each of the hub groove and the shaft groove having a groove base from where two groove walls start, the driving element being a circular cylinder with a convexly shaped lateral surface.

In regards to claim 9, Raines discloses the shaft has a shaft groove and the hub has a hub groove, the driving element being located between the shaft and the hub partly in the shaft groove and partly in the hub groove, the shaft groove and the hub groove extending axially, the driving element being a circular cylinder and the hub groove, being convexly shaped in an area against which the driving element bears.

In regards to claim 10, Raines discloses the contact surface between the hub groove and the driving element is virtually centered.

In regards to claim 11, Raines discloses the hub groove has in each case a groove base from where two groove walls start, the groove base and the groove walls of the hub groove being convexly shaped in the area against which the driving element bears.

In regards to claim 12, Raines discloses the shaft has a shaft groove and the hub has a hub groove, the driving element being located between the shaft and the hub

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partly in the shaft groove and partly in the hub groove. Raines does not disclose the driving element having the shape of a sphere. It would have been obvious to one having ordinary skill in the art at the time the invention was made to fabricate the driving element having the shape of a sphere, since a change in the shape of a prior art device is a design consideration within the level of skill of one skilled in the art. In re Dailey, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

In regards to claim 13, Raines discloses claimed invention in cross section the hub groove and the shaft groove form a semicircle, with ends of the semicircle of the shaft groove or the hub groove changing tangentially to a straight line or a circular arc with an increasing radius.

In regards to claim 14, Raines discloses the hub groove or the shaft groove have a trapezoidal cross section.

In regards to claim 15, Raines discloses in cross section the hub groove and the shaft groove form a semicircle, with ends of the semicircle of the shaft groove or the hub groove changing tangentially to a straight line or a circular arc with an increasing radius.

In regards to claim 16, Raines discloses the hub groove or the shaft groove have a trapezoidal cross section.

In regards to claim 17, Raines discloses in cross section the hub groove and the shaft groove form a semicircle; with ends of the semicircle of the shaft groove or the hub groove changing tangentially to a straight line or a circular arc with an increasing radius.

In regards to claim 18, Raines discloses the hub groove or the shaft groove have a trapezoidal cross section.

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In regards to claim 19, Raines discloses in cross section the hub groove and the shaft groove form a semicircle, with ends of the semicircle of the shaft groove or the hub groove changing tangentially to a straight line or a circular arc with an increasing radius.

In regards to claim 20, Raines discloses the hub groove or the shaft groove have a trapezoidal cross section.

Response to Arguments

In response to applicant's argument that shaft-hub is allowed to permit tilting of the hub with respect to the shaft in the axial direction, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron M. Dunwoody whose telephone number is 571-272-7080. The examiner can normally be reached on 7:30 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel P. Stodola can be reached on 571-272-7087. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Aaron M Dunwoody
Primary Examiner
Art Unit 3679

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